Cantonese tone word learning by tone and non-tone language speakers

Angela Cooper & Yue Wang
Simon Fraser University, Canada
akcooper@sfu.ca & yuew@sfu.ca

Introduction

Previous research
- Experience with listeners’ native (L1) phonemic systems affects the perception of non-native (L2) sounds.
- Little is known about how L1/L2 interactions influence learning.
- While some studies have suggested that experience with lexical tone in one’s L1 can beneficially transfer to aid L2 tone perception, others found that L1 tone experience does not necessarily facilitate L2 tone perception.

The current study
- Examines Cantonese tone word learning by non-native listeners with tonal (Thai) and non-tonal (English) L1 backgrounds.
- Aims to further examine the nature of L1 influence by including listeners with different backgrounds with lexical tone and (2) extend research on non-native tone perception to its effect on the ability to utilize non-native tones in a linguistic lexical context.

Methods

Participants & Stimuli
- Participants: 23 native Cantonese speakers, 1 male, 2 female.
- Tone Word Training Stimuli:
  - Produced by 4 native Cantonese speakers (2 males, 2 females).
  - 3 quintuplets of Cantonese CV monosyllables (pseudowords) using 5 Cantonese tones.
- Each word assigned a meaning in the form of a picture.
- Contains no semantic content in Thai or English.

Pre-/post-training ID Stimuli
- Produced by 2 native Cantonese speakers (1 male, 1 female).
- 5 Cantonese CV monosyllables (real words) containing common Thai/English phonemes.
- Target languages: Thai, English.

Tasks
- Pre-/post-training ID:
  - 10 randomized stimuli (5 quintuplets x 2 speakers x 2 repetitions)
  - 5 alternative ID from 5 tone diagrams presented on the screen.
- Tone Word Training
- Each training session:
  - Training blocks:
    - 15 training words (3 words x 5 blocks)
    - Each training trial heard 1 word and saw its meaning on the screen.
    - Each block followed by a quiz of 3 words, with feedback.
  - Review blocks:
    - Review 1: 15 trial blocks for syllable, so participants could hear the minimal tone quintuplets.
    - Review 2: 10 randomized stimulus (3 words x 2 repetitions) from a choice of all 15 options.
- Session tests:
  - 60 randomized stimulus (15 words x 4 repetitions).
  - ID from 15 options: OK.

Procedure
- Pre-test:
  - Training block 1 (for training).
- Training block 2 (for final test).
- Post-test: Session 1 - Session 7.

Findings

Tone Word Training
- Significant effect of Test: improved tone identification accuracy after training across groups.
- No significant group difference in tone identification accuracy across tests, nor any Test x Group interaction.

Conclusions
- The findings suggest that native experience with a tone language does not necessarily aid non-native tone perception, as no significant difference was found between Thai and English listeners in tone identification accuracy.
- The nature of their respective L1 tone inventories may provide some insights into group performance discrepancies on specific tonal contrasts.
- However, linguistic experience with using tone to make lexical distinctions appears to facilitate the use of non-native pitch contrasts to distinguish novel lexical items.
- The current research thus extends the previous work on the role of L1 influence to tone word learning, with different L1 backgrounds (tonal or non-tonal) and at different linguistic domains (phonemic versus lexical).